

William Sierras

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Tonganoxie, KS 66086 | U.S. Citizen

EDUCATION

University of Kansas

Bachelor of Science in Computer Engineering | **4.0 GPA**

Expected May 2028

SKILLS

Languages & Tools: ANSI C, C++, Python, SQL, Git, NI TestStand, NI VISA, Bitbucket, Claude Code
Java, JavaScript, SvelteKit Visual Studio, SCPI, HTML, CSS

Equipment: R&S MXO34 Oscilloscope, Keysight DSOS204A RF scope, R&S SMBV100B Vector Signal Generator, R&S FSMR3008 Spectrum Analyzer and Measuring Receiver, R&S ZNA Vector Network Analyzer

EXPERIENCE

Test Engineering Intern – Avionics Engineering R&D

May 2026 – Present

VIAMI Solutions Inc. | Lenexa, KS

- Automated design verification testing in C/C++ for the ATC-5000NG (XPDR/DME) across 60+ modules and 2,000+ measurements, eliminating 6+ weeks of manual testing.
- Led a full C++ to C# (.NET 8) migration of the in-house test framework, SCPI wrappers, and TPS for the successor to the AVX-10K, cutting licensing costs by \$1k+/year per developer and enabling native METAS.UncLib integration.
- Developing and executing automated test procedures in C# for the AVX-10K's successor product, covering DME, XPDR, TACAN, TCAS, and other systems across 1,000+ modules with full uncertainty tracking.
- Implemented GUM Type A/B uncertainty analysis across all instrument results, establishing traceable measurement uncertainty.
- Performed DSP on DME and Mode S waveforms including filtering, IQ demodulation, and statistics to verify pulse width, spacing, duration, phase, and more.

PROJECTS

Taylor-Expansion Linear Uncertainty Propagator

<https://github.com/Starvern/uncertainty-propagator>

- Written in C++ and inspired by METAS.UncLib. Provides an extendable operator interface to define closed-form solutions for partial derivatives with respect to their inputs.
- Represented uncertainty values as directed acyclic graphs (DAG) to propagate uncertainties recursively by using those operators and overloading them for math-like syntax.

TRACER Laboratory Calculator

<https://github.com/Starvern/TRACER>

- Written in Python using METAS.UncLib, it provides user-friendly text-based UI (TUI) for laboratory measurement calculations.
- Allow users to define measurements and uncertainties, all with units attached which are automatically resolved with dimensional analysis.
- Provides tools and graphs for visualizing uncertainty budgets.

Custom Ground Drone

<https://github.com/Starvern/rf24-drone-project>

- Designed and built the electronics for a custom RC car and handheld radio controller using ESP8266, nRF24L01 radio transceivers, joystick modules, and motor drivers.
- Implemented wireless RF command transmission and motor control logic in C++ for real-time operation.

AWARDS

Fall & Spring 2024, 2025, & Spring 2026 **Dean's List / Honor Roll** – University of Kansas

SkillsUSA State Competition – **Computer Programming 3rd Place** – Apr. 2023

SkillsUSA District Competition – **I.T. Services 1st Place** – Nov. 2023